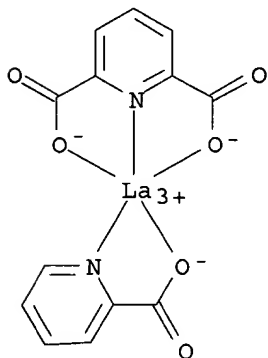


AN 2002172252 MEDLINE
 DN 21901848 PubMed ID: 11904350
 TI The role of trace elements in uraemic toxicity.
 AU Vanholder Raymond; Cornelis Rita; Dhondt Annemieke; Lameire Norbert
 CS University Hospital Gent, Department of Internal Medicine, Nephrology
 Division, De Pintelaan 185, B 9000 Gent, Belgium.. vanholder@rug.ac.be
 SO NEPHROLOGY, DIALYSIS, TRANSPLANTATION, (2002) 17 Suppl 2 2-8. Ref: 55
 Journal code: 8706402. ISSN: 0931-0509.
 CY England: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, TUTORIAL)
 LA English
 FS Priority Journals
 EM 200208
 ED Entered STN: 20020321
 Last Updated on STN: 20020816
 Entered Medline: 20020815
 AB Although most research on uraemic toxicity has focused on the retention or
 removal of organic solutes, subtle changes in the concentration of
 inorganic compounds are also of importance because these compounds may
 have significant clinical consequences. Potential clinical implications
 include increased risk of cancer, cardiovascular disease, immune
 deficiency, anaemia, renal function impairment and bone disease. In
 uraemic patients, the most important factor affecting trace element
 concentration is the degree of renal failure and modality of renal
 replacement therapy. Accumulation of trace elements in haemodialysis
 patients has resulted from dialysate contaminated with aluminium and
 strontium. Several trace elements have been implicated in the decline of
 renal function. These include arsenic, cadmium, copper, germanium, lead
 and mercury. In uraemic patients, aluminium, cadmium, chromium,
lanthanum, strontium and zinc have been shown to accumulate in
bone. In addition to substantial evidence linking aluminium to
 renal osteodystrophy, studies have also implicated cadmium, iron and
 strontium in **bone** disease. Studies using a rat model of chronic
 renal failure have demonstrated an association between lanthanum
accumulation and mineralization defects characteristic of
osteomalacia. Investigations of arsenic accumulation in animal
 models have demonstrated that speciation of trace elements potentially may
 alter toxicities of trace elements accumulated in uraemic patients.
 Conversely, the presence of uraemic toxins may also alter the uptake and
 toxicity of certain trace elements. Although research in uraemic patients
 has focused primarily on total concentrations of trace elements, the
 evolution of both inorganic and organic species should be considered
 separately.

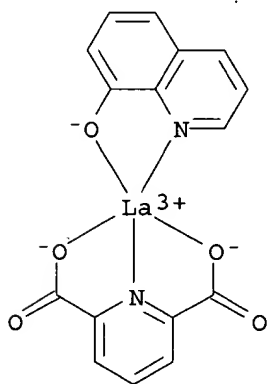
AN 2002-42056 DRUGU T S
 TI Fosrenol (**lanthanum carbonate**) vs. calcium carbonate
 for the treatment of ~~hyperphosphataemia~~ hyperphosphataemia: A comparison of the effects on
bone using biopsy examination.
 AU De Broe M E
 CS Univ.Antwerp
 LO Antwerp, Belg.
 SO J.Am.Soc.Nephrol. (13, Abstr.Iss., 769A, 2002) 1 Tab. ISSN:
 1533-3450
 AV Department of Nephrology, University of Antwerp, Antwerp, Belgium.
 LA English
 DT Journal
 FA AB; LA; CT
 FS Literature
 AB In this open-label study 98 patients with end-stage renal disease (ESRD)
 were randomized to receive either lanthanum carbonate (FOS, Fosrenol,
 Shire) or calcium carbonate (CA) for 50 wk. Both treatments were able to
 control phosphate levels and adverse events were similar in both groups,
 although hypercalcemia occurred more often in the CA-treated group.
 Given the potential association between hypercalcemia and metastatic
 calcification, FOS may represent a superior treatment for
 hyperphosphatemia compared with calcium-based agents. (conference
 abstract: Annual Meeting of the American Society of Nephrology,
 Philadelphia, Pennsylvania, USA, 2002).
 TI Fosrenol (**lanthanum carbonate**) vs. calcium carbonate
 for the treatment of hyperphosphataemia: A comparison of the effects on
bone using biopsy examination.
 ABEX Methods 98 Patients with ESRD were randomized to either FOS (maximum
 dose of **lanthanum** 3.75 g/day) or CA (maximum dose of calcium 9
 g/day) for 50 wk. **Bone** histomorphology was examined after
 double-labelled tetracycline administration at the start of the study and
 after 1 yr of treatment. Results. . .

L13 ANSWER 1 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 105333-27-5 REGISTRY
 CN Lanthanum, (2-pyridinecarboxylato-N1,O2) [2,6-pyridinedicarboxylato(2-)-N1,O2,O6]- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 2,6-Pyridinedicarboxylic acid, lanthanum complex
 CN 2-Pyridinecarboxylic acid, lanthanum complex
 MF C13 H7 La N2 O6
 CI CCS
 SR CA
 LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1962 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

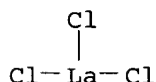
L13 ANSWER 2 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 105333-26-4 REGISTRY
 CN Lanthanum, [2,6-pyridinedicarboxylato(2-)-N1,O2,O6] (8-quinolinolato-N1,O8)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 2,6-Pyridinedicarboxylic acid, lanthanum complex
 MF C16 H9 La N2 O5
 CI CCS
 SR CA
 LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1962 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L13 ANSWER 3 OF 7 REGISTRY COPYRIGHT 2003 ACS

RN 10099-58-8 REGISTRY
CN Lanthanum chloride (LaCl₃) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Lanthanum chloride
CN Lanthanum chloride (La₂Cl₆)
CN Lanthanum trichloride
CN Lanthanum(III) chloride
DR 12314-13-5
MF Cl₃ La
CI COM
LC STN Files: AGRICOLA, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,
CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX,
CHEMLIST, CSCHM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, IFICDB,
IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PROMT, RTECS*, TOXCENTER,
TULSA, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



2668 REFERENCES IN FILE CA (1962 TO DATE)
37 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2668 REFERENCES IN FILE CAPLUS (1962 TO DATE)
31 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L13 ANSWER 4 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN 7439-91-0 REGISTRY
CN Lanthanum (8CI, 9CI) (CA INDEX NAME)
DR 14762-71-1, 110123-48-3
MF La
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,
BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
CHEMLIST, CIN, CSCHM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT,
ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE,
MRCK*, MSDS-OHS, NIOSHTIC, PIRA, PROMT, TOXCENTER, TULSA, ULIDAT,
USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

La

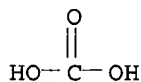
40408 REFERENCES IN FILE CA (1962 TO DATE)
3192 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
40430 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L13 ANSWER 5 OF 7 REGISTRY COPYRIGHT 2003 ACS
RN 1312-81-8 REGISTRY
CN Lanthanum oxide (La₂O₃) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Dilanthanum oxide
CN Dilanthanum trioxide
CN Lanthana
CN Lanthanum oxide
CN Lanthanum sesquioxide
CN Lanthanum trioxide

CN Lanthanum(3+) oxide
 CN Lanthanum(III) oxide
 AR 12680-02-3
 DR 162525-16-8
 MF La2 O3
 CI COM, MAN
 LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHM, DETHERM*, ENCOMPLIT, ENCOMPLIT2, ENCOMPAT, ENCOMPAT2, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 12899 REFERENCES IN FILE CA (1962 TO DATE)
 199 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 12905 REFERENCES IN FILE CAPLUS (1962 TO DATE)
 49 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L13 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 587-26-8 REGISTRY
 CN Carbonic acid, lanthanum(3+) salt (3:2) (8CI, 9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Lanthanum carbonate (6CI, 7CI)
 OTHER NAMES:
 CN Lanthanum carbonate (2:3)
 CN Lanthanum carbonate (La2(CO3)3)
 CN Lanthanum sesquicarbonate
 CN Lanthanum(3+) carbonate
 AR 14475-16-2
 MF C H2 O3 . 2/3 La
 LC STN Files: ADISNEWS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHM, DETHERM*, DRUGUPDATES, GMELIN*, IFICDB, IFIPAT, IFIUDB, MRCK*, MSDS-OHS, PHAR, PROMT, TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)
 CRN (463-79-6)



⊕ 2/3 La(III)

244 REFERENCES IN FILE CA (1962 TO DATE)
 7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 245 REFERENCES IN FILE CAPLUS (1962 TO DATE)
 21 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L13 ANSWER 7 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 537-03-1 REGISTRY
 CN Lanthanum, [.mu.-[ethanedioato(2-)-.kappa.O1,.kappa.O2':.kappa.O1',.kappa.O2]]bis[ethanedioato(2-)-.kappa.O1,.kappa.O2]di- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Lanthanum oxalate (6CI)
 CN Lanthanum, [.mu.-[ethanedioato(2-)-O,O''':O',O'']]bis[ethanedioato(2-)-O,O']di-

CN Oxalic acid, lanthanum(3+) salt (3:2) (8CI)

OTHER NAMES:

CN Ethanedioic acid, lanthanum(3+) salt (3:2)

CN Lanthanum oxalate (2:3)

CN Lanthanum oxalate (La₂(C₂O₄)₃)

CN Lanthanum sesquioxalate

CN Lanthanum(3+) oxalate

CN Lanthanum(3+) oxalate (2:3)

CN Tris(oxalato)dilanthanum

DR 131530-68-2

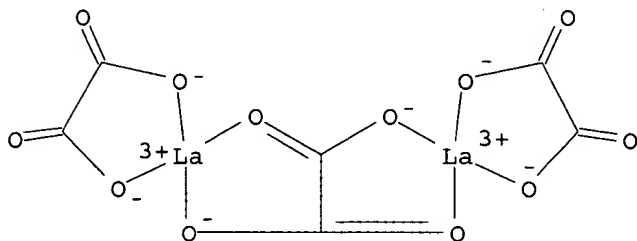
MF C6 La2 O12

CI CCS, COM

LC STN Files: CA, CAOLD, CAPLUS, CHEMCATS, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPATFULL

Other Sources: EINECS**, NDSL**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)



162 REFERENCES IN FILE CA (1962 TO DATE)

6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

162 REFERENCES IN FILE CAPLUS (1962 TO DATE)

24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>

AN 89150599 MEDLINE
DN 89150599 PubMed ID: 3228613
TI Incorporation of 140-lanthanum into bones, teeth and hydroxyapatite.
AU Fernandez-Gavarron F; Huque T; Rabinowitz J L; Brand J G
CS Department of Biochemistry, Faculty of Medicine, U.N.A.M. Mexico D.F.
SO BONE AND MINERAL, (1988 Mar) 3 (4) 283-91.
ED Journal code: 8610542. ISSN: 0169-6009.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198904
ED Entered STN: 19900306
Last Updated on STN: 19900306
Entered Medline: 19890411
AB The incorporation of **lanthanum** in the form of 140-**lanthanum** onto the surface of teeth, **bone** and synthetic hydroxyapatite was investigated. A small amount of **lanthanum** was taken up by the surface of all of the materials studied regardless of their origin. The depth of penetration into **bone** and teeth was dependent upon **lanthanum** concentration and time of incubation and, in these experiments, ranged from an estimated 5 to 15 microns. An exchange of **lanthanum** for calcium in the apatite matrix may be responsible for increased resistance of the hard tissues to acid dissolution. The effects of pH, temperature, time and concentration of the lanthanum solutions on this incorporation were investigated. Possible clinical uses of this effect are discussed.

order

AN 1986:618548 CAPLUS
DN 105:218548
TI Studies on anti-inflammatory activity of some lanthanon complexes of
bioactive organic molecules
AU Singh, Lal; Mohan, Govind; Parashar, R. K.; Tripathi, S. P.; Sharma, R. C.
CS Chem. Lab., Agra Univ., Agra, 282 004, India
SO Current Science (1986), 55(17), 846-8
CODEN: CUSCAM; ISSN: 0011-3891
DT Journal
LA English
AB The formation of the complexes between La and other transition metals, and
compds. contg. N atoms [8-hydroxyquinoline (HQ), 2-picolinic acid (PIC)
and pyridine-2,6-dicarboxylic acid (PDA)] are described. The formation of
the La(III)-PDA-HQ [105333-26-4] and La(III)-PDA-Pic [105333-27-5]
complexes are described. Of the complexes of transition metals with PDA
and Pic, the La(III)-PDA-Pic complex was the most stable. The anti-
inflammatory activity of the compds. was tested. The La(III)-PDA-HQ
complex did not show any activity in the carrageenin-induced edema but
did show anti-inflammatory activity in the sub-acute model (cotton pellet
granuloma) and the chronic model (formaldehyde-induced arthritis).

La - arthritis

Same as Drugu 1987-06492 (cited).

AN 96108266 MEDLINE
 DN 96108266 PubMed ID: 8680806
 TI A possible non-aluminum oral phosphate binder? A comparative study on dietary phosphorus absorption.
 AU Graff L; Burnel D
 CS Laboratoire de Chimie Generale Appliquee a la Medecine, Faculte de Medecine, Universite Henri Poincare, Nancy I, Vandoeuvre les Nancy, France.
 SO RESEARCH COMMUNICATIONS IN MOLECULAR PATHOLOGY AND PHARMACOLOGY, (1995 Sep) 89 (3) 373-88.
 Journal code: 9437512. ISSN: 1078-0297.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199608
 ED Entered STN: 19960828
 Last Updated on STN: 19970203
 Entered Medline: 19960820
 AB The aim of this study was to highlight a possible new non-aluminum phosphate-binder to limit hyperphosphatemia in patients with renal failure. Lanthanum chloride hydrate was evaluated as a dietary phosphate binder in rats. Aluminum chloride hexahydrate was evaluated as a reference. Animals were divided in five groups (6 animals per group): 1 control group (C), 2 aluminum groups (Al1 and Al2), receiving different doses of aluminum chloride hexahydrate and 2 lanthanum groups (La1 and La2), receiving different doses of lanthanum chloride hydrate. During the treatment, urine and stools were collected. At the end of the treatment animals were sacrificed and plasma and different organs were collected (liver, spleen, kidneys, brain and femur). To highlight the possible transfer of lanthanum in rat tissues, a long-term (100 days) study was carried with a high dose. At the end of the treatment, lanthanum determinations were carried out on several tissues (liver, spleen, kidneys, brain, femur and lungs). Determinations of phosphorus and calcium levels in plasma indicated that **lanthanum chloride hydrate** showed as good results as aluminum chloride hexahydrate. **Lanthanum chloride hydrate** significantly ($p < 0.01$) reduced the **bone** phosphorus burden. Decreases of urinary excretion and increases in fecal excretion of phosphorus indicated a severe phosphorus depletion in all treatments (Al and La). Unfortunately, in the long-term study, **lanthanum** traces could only be determined in the different tissues but not in plasma. However, in comparison with the equivalent aluminum treatment, the transfer of lanthanum was less important than aluminum transfer. Consequently, lanthanum could provide a possible alternative to aluminum.

AN 94119929 EMBASE
 DN 1994119929
 TI Metabolism of calcium and phosphorus in rats after continuous oral
 administration of lanthanum.
 AU Hanioka N.; Jinno H.; Sekita H.; Toyo'oka T.; Ando M.; Kojima S.; Takeda
 M.
 CS Division of Environmental Chemistry, Natl. Institute of Hygienic Sciences,
 1-18-1 Kamiyoga, Setagaya-ku, Tokyo 158, Japan
 SO Japanese Journal of Toxicology and Environmental Health, (1994) 40/1
 (26-33).
 ISSN: 0013-273X CODEN: JJTHEC
 CY Japan
 DT Journal; Article
 FS 029 Clinical Biochemistry
 046 Environmental Health and Pollution Control
 052 Toxicology
 LA English
 SL English
 AB In the present study, we examined the effects of a rare earth element,
 lanthanum (La) on the excretion into the urine and feces as well
 as the distribution of calcium (^{45}Ca) and phosphorus (^{32}P) in the liver,
 pancreas, spleen, kidney, lung, heart, thymus, brain, bone and
 blood of male rats. The experiments were performed using 5 rats in each
 group. Lanthanum chloride (LaCl_3) was
 administered orally at a dose of 100 mg/rat/d as La for 5 weeks (La-A
 group). ^{45}Ca and ^{32}P were administered orally or intravenously once, and
 following the administration, the urine and feces were collected daily for
 8 consecutive days. As a result, the amount of oral ^{45}Ca and ^{32}P excreted
 into the feces in the La-A group increased remarkably compared with that
 of the control group (41 .fwdarw. 91% and 26 .fwdarw. 99%, respectively),
 whereas ^{45}Ca and ^{32}P excreted into the urine in the La-A group was reduced
 (9.5 .fwdarw. 0.2% and 28 .fwdarw. 0.3%, respectively). However, the
 excretion patterns in the urine and feces and the distribution of ^{45}Ca and
 ^{32}P in the body of rats given La, were similar to those of the control
 rats after the stop of the La administration (La-B group). The levels of
 ^{45}Ca and ^{32}P in the body for 8 d after their administration was highest in
 the control group, followed by the La-B group, and lowest in the La- A
 group. Moreover, in the La-A group, the levels of ^{45}Ca and ^{32}P in each
 organ decreased by 1/2 to 1/75 compared with those in the control rats,
 but there was no significant difference between the control group and the
 La-B group. However, the excretion patterns in the urine and feces and the
 distribution of ^{45}Ca and ^{32}P in the La-A group was similar to those of the
 control group when ^{45}Ca and ^{32}P were administered intravenously. These
 results suggest that La inhibits the uptake of ^{45}Ca and ^{32}P temporarily,
 and that the action is reversible.

Not clear
 how La³⁺ is
 helping bone

AN 93203030 MEDLINE
 DN 93203030 PubMed ID: 1295872
 TI **Lanthanum** tracer and freeze-fracture studies suggest that compartmentalisation of early **bone** matrix may be related to initial mineralisation.
 AU Soares A M; Arana-Chavez V E; Reid A R; Katchburian E
 CS Department of Histology and Embryology, University of Sao Paulo, Brazil.
 SO JOURNAL OF ANATOMY, (1992 Oct) 181 (Pt 2) 345-56.
 Journal code: 0137162. ISSN: 0021-8782.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals; Space Life Sciences
 EM 199304
 ED Entered STN: 19930507
 Last Updated on STN: 19930507
 Entered Medline: 19930422
 AB In adult bone the calcified matrix and enclosed osteocytes are separated from the extracellular space by a continuous layer of bone lining cells. It thus appears that bone matrix is compartmentalised and, as such, may constitute a 'milieu interieur' which is different from the general extracellular space. Since adult bone matrix is compartmentalised and matrix vesicles also form a microcompartment, it is conceivable that compartmentalisation, in early osteogenesis, may be a requirement for the initial events of the mineralisation process. We have therefore conducted an ultrastructural, tracer, and freeze-fracture study to determine the stage in which **bone** matrix becomes compartmentalised and also to find out whether there are tight junctions between **osteoblasts**. The results show that in early nonmineralised stages and in incipient mineralisation, **lanthanum** penetrates all intercellular spaces and the newly forming **bone** matrix which is rich in matrix vesicles and collagen. With the progression of mineralisation, when all matrix vesicles appear mineralised and calcification is 'spreading' to the surrounding matrix, **lanthanum** is restricted to intercellular spaces and conspicuous macular tight junctions are present between **osteoblasts**. We suggest that matrix vesicles act as microcompartments for calcification when the early **bone** matrix is in continuity with the surrounding extracellular space. In later stages, when **lanthanum** fails to penetrate the matrix, matrix vesicles may no longer be necessary because the **bone** matrix itself is compartmentalised, thus allowing for localised changes in composition that might favour mineral deposition.

Not clear
 Let's
 If helping

AN 1980:465265 CAPLUS
DN 93:65265
TI A novel stromal cell type in rat marrow recognizable by its preferential uptake of lanthanum
AU Tavassoli, Mehdi; Aoki, Makoto; Shaklai, Matityahu
CS Scripps Clin. Res. Found., La Jolla, CA, 92037, USA
SO Experimental Hematology (New York, NY, United States) (1980), 8(5), 568-77
CODEN: EXHMA6; ISSN: 0301-472X
DT Journal
LA English
AB A novel stromal cell type is described in rat bone marrow. It is distinguishable from other stromal cells (macrophages, reticular cells, etc.) by its preferential uptake of the electron dense tracer lanthanum nitrate, which can then serve as a marker for this cell type. In low concn. of La, this cell type is the only marrow cell that takes up the tracer. Other stromal cells do not take it up even in high concn. This novel stromal cell type is assocd. with both erythropoietic and granulopoietic areas of the marrow tissue. Its branching cytoplasm is very light in d. and contains no characteristic cytoplasmic organelles. Its function is not yet known.

AN 1987:12177 CAPLUS
DN 106:12177
TI Determination of trace amounts of lanthanum in animal tissues, especially
in teeth and bones
AU Ishiguro, Yoshio; Goto, Kazuo; Kobayashi, Yasuko; Nakashima, Ryoza;
Shibata, Shozo
CS Gov. Ind. Res. Inst., Nagoya, 462, Japan
SO Nagoya Kogyo Gijutsu Shikensho Hokoku (1986), 35(3), 97-101
CODEN: NKGSAR; ISSN: 0027-7614
DT Journal
LA Japanese
AB Following the topical application of a La-contg. soln. to rat teeth, La
was detd. in teeth and **bones** by emission spectroscopy (ES) after
digestion of the biol. sample with a HNO₃-perchloric acid mixt. La was
pptd. as lanthanum oxalate [537-03-1] together with Ca oxalate
from these 2 biol. samples. La oxalate was extd. with TTA
(4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedione into 4-methyl-2-pentanone,
back-extd. into HNO₃ (1M) and then detd. by ES.

AN 1991:435680 CAPLUS
 DN 115:35680
 TI Long-term behavior of active glasses in sheep mandibular bone
 AU Gatti, A. M.; Zaffe, D.
 CS Sch. Dent., Univ. Modena, Italy
 SO Biomaterials (1991), 12(3), 345-50
 CODEN: BIMADU; ISSN: 0142-9612
 DT Journal
 LA English
 AB Granules of a glass (A) prepd. according to Hench's formula and a new vitreous material for biol. applications (AKRA 15) were used for repair of bone defects in the dental field. The behavior of these materials implanted in holes drilled in sheep's mandibular bone was examd. 4, 8, 12 mo after implantation. Microradiog. analyses, optical and scanning electron microscopic observations, and x-ray microprobe evaluations were carried out using undecalcified, methacrylate-embedded sections of the jaw contg. the granules. After 1 yr the granules of A disappeared, but not important bone growth was obsd. also in the holes contg. AKRA 15. SEM and microprobe showed: disappearance of Na and Si ions at different stages; increase of P and Ca up to 4 mo and then decrease, but in different ways in the 2 glasses; unexpected appearance of K ions after 4 mo only in AKRA 15.
 IT 1309-37-1, Ferric oxide, biological studies 1312-81-8, Lanthanum oxide (La₂O₃) 1313-99-1, Nickel oxide, biological studies 1314-61-0, Tantalum oxide (Ta₂O₅) 1333-82-0, Chromium trioxide
 RL: BIOL (Biological study)
 (glasses contg., behavior of, in mandibular bone, dental materials in relation to)

AN 1999:624694 CAPLUS
 DN 131:233614
 TI Apatite glass ceramics for use as bone substitutes
 IN Carl, Gunter; Habelitz, Stefan; Jana, Carsten; Moisesescu, Cornelia;
 Ruessel, Christian
 PA Hermsdorfer Institut fuer Technische Keramik e.V., Germany
 SO Ger. Offen., 4 pp.
 CODEN: GWXXBX
 DT Patent
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19812278	A1	19990923	DE 1998-19812278	19980320
PRAI	DE 1998-19812278		19980320		

AB An apatite glass ceramic with oriented needlelike apatite crystals and improved mech. properties is provided as a substitute for human hard tissues, esp. bone. The glass ceramic has the compn. SiO₂ 20-50, Al₂O₃ 8-25, CaO 6-20, P₂O₅ 6-20, F- 4-10, and R₂O 6-20 wt.% (R = alkali metal). The oriented apatite crystals increase the mech. strength of the glass ceramic and mimic the structure of human hard tissues. Thus, a glass contg. SiO₂ 28.2, Al₂O₃ 19.3, CaO 18.9, P₂O₅ 6.0, F- 9.0, and Na₂O 18.6 wt.% was melted at 1500.degree., heat-treated for 1 h at 1300.degree., and extruded at 780.degree. and 12.4 MPa. The resulting glass ceramic contained needle-shaped crystals 1-2 .mu.m long with an aspect ratio of 10:1.

IT 1312-81-8, Lanthanum oxide 1314-11-0, Strontium oxide,
 biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (contrast agent; apatite glass ceramics for use as **bone**
 substitutes)

AN 1994:548401 CAPLUS
DN 121:148401
TI Preventive effect of rare earths against dental caries (1) some rare
earths inhibited the adherence of streptococcus sobrinus to test tubes.
AU Miyauchi, K.; Kobayashi, Y.; Hosoe, H.; Shimano, R.
CS Faculty General Education, Aichigakuin University, Aichi, 470-01, Japan
SO Kidorui (1994), 24, 72-3
CODEN: KIDOEP; ISSN: 0910-2205
DT Journal
LA Japanese
AB Adherence of oral bacteria to tooth surface and/or tissue is one of the
most crit. events in the development of dental caries and
periodontal diseases. Although bacterial adherence can
be facilitated by several mechanisms, water-insol.-glucan mediated
interaction is thought to be most commonly assocd. with the etiol. of
dental diseases. The effect of rare earths for adherence of S. sobrinus
to smooth glass or polystyrene surfaces has been studied. Inhibition
effect of rare earths against glucosyltransferase (GTase) activity also
studied. The result showed that most of all nitrates of rare earth
inhibited the adherence of viable cell at 1.16×10^{-4} mol/L; killed cell
adherence was inhibited by nitrates of La, Ho and Er. Nitrates of Sm, Ho
and Er at 4.6×10^{-4} mol/L inhibited GTase activity by 53.apprx.62%.

AN 1991:520085 CAPLUS
 DN 115:120085
 TI Radiolabeled iron hydroxide colloid compositions, their use and process
 for their preparation
 IN Simon, Jaime; Cooper, Lance A.; McMillan, Kenneth; Wilson, David A.
 PA Dow Chemical Co., USA
 SO PCT Int. Appl., 19 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9109622	A1	19910711	WO 1990-US7522	19901218
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	US 5061476	A	19911029	US 1989-458049	19891227
	CA 2046308	AA	19910628	CA 1990-2046308	19901218
	EP 460205	A1	19911211	EP 1991-903521	19901218
	EP 460205	B1	20020424		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 04505023	T2	19920903	JP 1991-503520	19901218
	JP 3155273	B2	20010409		
	AT 216596	E	20020515	AT 1991-903521	19901218
PRAI	US 1989-458049	A	19891227		
	WO 1990-US7522	W	19901218		

AB Radiolabeled colloid compns. for the treatment of arthritis comprise spherical aggregation of radioactive metal in iron hydroxide particles. The compns. are prepd. (1) by prepg. an iron hydroxide colloid by pptg. an iron soln. with an alkali metal hydroxide and (2) sorbing onto the colloid a radionuclide of Sm-153, Ho-166, In-115m, Y-90, Gd-159, La-140, Lu-177, or Yb-175. The compn. at 500-150,000 rads is administered to the synovium of a joint. The colloids prepd. by the sorption process remain in the synovium better than similar entrapped radionuclide formulations prepd. by the copptn. process. To 0.3 mL of Fe(OH)₂ colloid prepd. by treating FeSO₄ soln. with NaOH soln. was added 30 .mu.L of Sm-153 soln. in 0.1 HCl with stirring to give a colloid, which was injected (100 .mu.L) into the synovium of stifle of the hind leg in a rabbit; greater than 99% of the injected dose of radioactivity remained in the synovium with no leakage into surrounding tissues during 4 h period.